

WHAT IS CLAIMED IS:

1 1. A radio frequency (RF) transceiver comprising:

2 a radio frequency (RF) modem section comprising:

3 receive path circuitry capable of receiving and
4 down-converting an incoming RF signal to thereby produce an
5 incoming baseband signal; and

6 transmit path circuitry capable of receiving and
7 up-converting an outgoing baseband signal to thereby
8 produce an outgoing RF signal;

9 a baseband section comprising baseband circuitry
10 capable of receiving and processing said incoming baseband signal
11 and capable of generating said outgoing baseband signal; and

12 a power-saving apparatus capable of determining that
13 said baseband section is idle and, in response to said
14 determination, reducing a power supply voltage providing power
15 to said baseband section.

1 2. The RF transceiver as set forth in Claim 1 wherein said
2 power-saving apparatus is further capable of reducing a power
3 supply voltage providing power to said receive path circuitry.

1 3. The RF transceiver as set forth in Claim 2 wherein said
2 power-saving apparatus comprises a timer and a switch operable
3 to switch said power supply voltage on and off to said receive
4 path circuitry.

1 4. The RF transceiver as set forth in Claim 3 wherein said
2 power-saving apparatus is further capable of monitoring said
3 incoming baseband signal during a time period when said power
4 supply voltage is switched on to said receive path circuitry and
5 determining if said incoming baseband signal is directed to said
RF transceiver.

1 5. The RF transceiver as set forth in Claim 4 wherein said
2 power-saving apparatus, in response to a determination that said
3 incoming baseband signal is directed to said RF transceiver,
4 increases said power supply voltage providing power to said
5 baseband section.

1 6. The RF transceiver as set forth in Claim 4 wherein said
2 power-saving apparatus, in response to a determination that said
3 incoming baseband signal is directed to said RF transceiver,
4 increases said power supply voltage providing power to said
5 receive path circuitry.

1 7. The RF transceiver as set forth in Claim 6 wherein said
2 power-saving apparatus is further capable of reducing a power
3 supply voltage providing power to said transmit path circuitry.

1 8. The RF transceiver as set forth in Claim 7 wherein said
2 power-saving apparatus, in response to a determination that said
3 incoming baseband signal is directed to said RF transceiver,
4 increases said power supply voltage providing power to said
transmit path circuitry.

9. The RF transceiver as set forth in Claim 1 wherein said power-saving apparatus is further capable of reducing a power supply voltage providing power to said transmit path circuitry.

10. The RF transceiver as set forth in Claim 9 wherein said power-saving apparatus is further capable of monitoring said incoming baseband signal and determining if said incoming baseband signal is directed to said RF transceiver.

1 11. The RF transceiver as set forth in Claim 10 wherein
2 said power-saving apparatus, in response to a determination that
3 said incoming baseband signal is directed to said RF transceiver,
4 increases said power supply voltage providing power to said
5 transmit path circuitry.

1 12. The RF transceiver as set forth in Claim 11 wherein
2 said power-saving apparatus, in response to said determination
3 that said incoming baseband signal is directed to said RF
4 transceiver, increases said power supply voltage providing power
5 to said baseband section.

1 13. A method of reducing power consumption in a radio
2 frequency transceiver comprising: 1) receive path circuitry for
3 receiving and down-converting an incoming RF signal to produce
4 an incoming baseband signal; 2) transmit path circuitry for
5 receiving and up-converting an outgoing baseband signal to
6 produce an outgoing RF signal; and 3) a baseband section
7 comprising baseband circuitry for receiving and processing the
8 incoming baseband signal and generating the outgoing baseband
9 signal, the method comprising the steps of:

10 determining that the baseband section is idle; and

11 in response to the determination that the baseband
12 section is idle, reducing a power supply voltage providing power
13 to the baseband section.

14. The method as set forth in Claim 13 further
2 comprising the step of reducing a power supply voltage providing
3 power to the receive path circuitry.

15. The method as set forth in Claim 14 further comprising
2 the step of switching the power supply voltage on and off to the
3 receive path circuitry.

1 16. The method as set forth in Claim 15 further comprising
2 the steps of:

3 monitoring the incoming baseband signal during a time
4 period when the power supply voltage is switched on to the
5 receive path circuitry; and

6 determining if the incoming baseband signal is directed
7 to the RF transceiver.

1 17. The method as set forth in Claim 16 further comprising
2 the step, in response to a determination that the incoming
3 baseband signal is directed to the RF transceiver, of increasing
4 the power supply voltage providing power to the baseband section.

1 18. The method as set forth in Claim 16 further comprising
2 the step, in response to a determination that the incoming
3 baseband signal is directed to the RF transceiver, of increasing
4 the power supply voltage providing power to the receive path
5 circuitry.

1 19. The method as set forth in Claim 18 further comprising
2 the step of reducing a power supply voltage providing power to
3 the transmit path circuitry.

1 20. The method as set forth in Claim 19 further comprising
2 the steps, in response to a determination that the incoming
3 baseband signal is directed to the RF transceiver, of increasing
4 the power supply voltage providing power to the transmit path
5 circuitry.

1 21. The method as set forth in Claim 13 further comprising
2 the step of reducing a power supply voltage providing power to
3 the transmit path circuitry.

1 22. The method as set forth in Claim 21 further comprising
2 the steps of monitoring the incoming baseband signal and
3 determining if the incoming baseband signal is directed to the
4 RF transceiver.

1 23. The method as set forth in Claim 22 further comprising
2 the step, in response to a determination that the incoming
3 baseband signal is directed to the RF transceiver, of increasing
4 the power supply voltage providing power to the transmit path
5 circuitry.

1 24. The method as set forth in Claim 23 further comprising
2 the step, in response to the determination that the incoming
3 baseband signal is directed to the RF transceiver, of increasing
4 the power supply voltage providing power to the baseband section.

P04979-Congressional